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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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10/626,209

07/24/2003

Irving W. DeVoe

41056-101

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26486 7590 03/26/2008

BURNS & LEVINSON, LLP  
125 SUMMER STREET  
BOSTON, MA 02110

EXAMINER

MENON, KRISHNAN S

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

03/26/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |   |  |
|------------------------------|--------------------------------------|---|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/626,209 | <b>Applicant(s)</b><br>DEVOE, IRVING W. |  |
|                              | <b>Examiner</b><br>Krishnan S. Menon | <b>Art Unit</b><br>1797                 |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 March 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 47, 48, 50-52, 57-59, 67, 68, 70, 71 and 142 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 42, 47, 48, 50-52, 57-59, 67, 68, 70 and 71 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

Claims 42, 47, 48, 50-52, 57-59, 67,68, 70 and 71 are pending as amended  
3/12/08 in the RCE of 11/19/07.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 57-59 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 57 as amended 3/12/08 recite that the vacuum created in the solvent (first) chamber due to osmosis of solvent from the first chamber to the second chamber is utilized to lower the vapor pressure of a mixture of solvent and solute solution to aid in crystallization of the solute solution upon the application of an external energy source. Upon reading through the entire specification as originally filed, it is observed that page 18, line 3, - page 9, line 8, and figure 5 provides the closest disclosure to claim 57. Lines 15-17 of page 8 discloses that *in the illustrated configuration* [by figure 5], *the blow down receiving chamber 56, the condenser 57 and the solvent chamber 20 are hermetically joined and the internal space throughout is under vacuum or near the vapor*

*pressure of the solvent*. However, figure 5 is grossly inadequate and does not provide any details of how the receiving chamber, the condenser and the first (solvent) chamber are linked together to keep them under vacuum. The closed loop in figure 9 only provides a liquid line from the condenser to the solvent chambers 20 b and c. Since this vacuum generated in the solvent chamber by osmosis aiding the crystallization of the solute from the solute solution is an essential part of the claimed invention, the claims are not enabling.

**Claims 57-59 could not be further treated on merits because there is no enabling disclosure to consider.**

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 67 and 70 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

There is no antecedent basis for "the applying vacuum" in these claims. For examination, an external vacuum source such as a vacuum pump is considered as the 'applying vacuum'.

***Claim Rejections - 35 USC § 102/103***

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1. Claims 42, 47,48, 50-52, 67,68, 70 and 71 are rejected under 35 U.S.C. 102(b) as being anticipated by, or under 35 USC 103(a) as being obvious over, Loeb (US 3,906,250).

Loeb'250 teaches (see figures) a method of producing energy from a system having a semipermeable barrier separating a pressure chamber and a solvent chamber, wherein the pressure chamber has a solution (sea water) and solvent chamber has a solvent (river water), the solvent flows from the solvent chamber to the pressure chamber across the membrane, and the solvent chamber has a reduced pressure or vacuum (because pressure is zero atm in figure 3 and 4 in river water chamber; it is also inherent). See also figure 11, which is a closed system with the solvent chamber having only inflow, wherein the solvent chamber is at zero pressure. The solute solution is evaporated with external heat (like solar) in a third chamber – see figure 6 for example – and the solute is recycled as a concentrated solution.

With respect to claim 50, a displacement of an object, such as a piston, is implied in the reference to a piston in column 11, lines 37-59.

The solvent chamber is pressurized by pumps. Regarding applied vacuum, see column 11, lines 60-68. Providing energy for vacuum is implied since one cannot make a vacuum without providing energy for it.

2. Claims 42, 47,48, 50-52, 68, and 71 are rejected under 35 U.S.C. 102(b) as anticipated by, or in the alternative, under 35 USC 103(a) as being obvious over DE 3121968.

DE teaches a method of pressurizing a solute solution and converting the pressure to energy (by a turbine or by a reciprocating machine, which is a piston machine: see claims 22, page 8, and 28, page 9 of the English translation of the reference; piston in the reciprocating machine has linear displacement) using a solvent by passing the solvent across into the solution through a semipermeable membrane – see figures. The solution is exhausted after the pressure is converted to energy as claimed. Solvent chamber pressure reduces due to loss of solvent by osmosis, which would inherently create a loss of pressure, or vacuum. The solvent chamber is pressurized by a pump – see figure 1, pump 22.

DE teaches solvent recycle; and that the process of evaporation can be optimally selected from the various available methods – see pages 16-20 of the English translation (especially, page 18) – including air circulation, heat pump, and solar energy. Using vacuum for evaporation, particularly at ambient temperature, is known in the art. Even though the reference does not explicitly teach a third chamber, it is implied in terms of evaporation ponds or evaporators and condensers required in the various recycling schemes contemplated by the reference, which include both solvent and concentrated solute solution.

### ***Response to Arguments***

Applicant's arguments filed 3/12/08 have been fully considered but they are moot; new grounds for rejection.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krishnan S. Menon whose telephone number is 571-272-1143. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R. Sample can be reached on 571-272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Krishnan S Menon/  
Primary Examiner, Art Unit 1797